~~TOP SECRET~~

30 June 1959

MEMORANDUM FOR: [redacted] NRO25X162b I, C

SUBJECT: Control of the ARGON Program

The attached is the result of our staff effort in connection with your paper.

You will note that we did make some changes in the substance of your paper but feel that our changes do reflect the agreements in the June 15 meeting between Mr. Bissell, you and Mr. Johnson in the latter's office.

[redacted]

NRO25X162BI, C

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DRAFT [redacted] sec/24 June 1959

NRO25X 1C2b I,C

(Proposed ARPA Order to the Department of the Army)

1. Reference is made to the recent decision of the Director for Defense Research and Engineering which established Project ARGON as an approved program, and which assigned to the Advanced Research Projects Agency responsibilities for its technical management.

2. In order to provide technical supervision for the ARGON Project, Department of the Army assistance is necessary. In view of the unique and varied experience in the fields of geodesy and mapping, and the excellent technical counsel provided in support of Project ARGON by representatives of the Army Map Service, it is the desire of the Advanced Research Projects Agency to assign to the Army Map Service, Corps of Engineers, responsibility for contributing certain technical efforts and consultation in support of the ARGON Project. Due to the urgency, security, and magnitude of this program, a single channel to ARPA for such technical contributions would be most desirable. Accordingly, if other technical staffs exist elsewhere within the Department of the Army, competent and available to assist in this program, it is requested that they be organizationally integrated into the scientific staff of the Army Map Service.

3. Work to be performed by the Army Map Service initially will include studies to determine:

NRO25X 1A2 I,C

[redacted]

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Page 1 of 2 Pages.

a. Adequacy of the design configuration and component specifications for the ARGON payload.

b. Adequacy of the photographic instrumentation within the payload to meet the geodetic objectives of the project.

c. Adequacy of proposed subsystems for reducing photographic material to geodetic significance.

Additional assignments within these and related areas will be specified from time to time in further orders issued by this Agency.

4. Funds in the amount of [redacted] (state fund citation) are herewith made available for the salaries of scientists and engineers, and for other appropriate costs, of the Army Map Service in support of the project. All actions required to establish and/or augment the scientific team within the Army Map Service, and to arrange for secure physical work space for this staff, are requested to be expedited.

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Page 2 of 2 Pages.

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DRAFT/[redacted]/sec/24 June 1959
NRO25X 1b351,c

MEMORANDUM FOR THE DIRECTOR, CENTRAL INTELLIGENCE AGENCY

SUBJECT: Technical Control of the ARGON Program

In accordance with conversations among representatives of ARPA, the Central Intelligence Agency, and the Department of the Army, this memorandum defines the scope of ARPA technical control of the ARGON Program through the CIA, and ARPA relationships to program contractors to be utilized by the CIA.

ARPA technical guidance and control will be provided through its Technical Operations Division. ________________________ has been designated ARPA Project Manager and ________________________ as Assistant Project Manager.

Through ARPA Order No. ________ arrangements have been initiated to establish within the Army Map Service a technical staff to support ARPA project management. This technical staff will be responsive to the ARPA Project Manager and will contribute its initiative and competence to the CIA and to its contractors through, or in accord with the direction of, the ARPA Project Manager.

The CIA will be responsible through an appropriate prime contractor (hereinafter called Systems Engineer) for the detailed technical direction necessary to accomplish the specified objectives of the ARGON Program.

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Page 2 of 6 Pages.

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contract

The Systems Engineer will be charged by CIA with the responsibility for performance of engineering work as required by the satellite Agena vehicle system as a whole, and for providing appropriate direction to insure the technical adequacy of various components, subsystems, and facilities required in the development of the satellite vehicle system as well as for necessary ground equipment, including that for data processing. The Systems Engineer will also be responsible for resolution of all technical controversies (except as limited below) arising during development of the satellite vehicle system, including the problem of payload integration, and for the technical direction of the research, development, and production efforts of all sub ~~associated~~ contractors. The Systems Engineer will conduct analytical studies, and with the assistance of the sub associate contractors will provide the specifications and other data as may be required to completely define the satellite vehicle payload system characteristics. These will include: system specifications, criteria and requirements for major subsystems, trajectories and guidance equations, power and interface specifications, maintenance of reliability performance and accuracy estimates, weight, and balance.

a /

Whenever disagreements arise between the CIA, the Systems Engineer and/or Associate Contractors involving possible compromise to the attainment of project objectives, or which may involve interference with establishment of fully effective physical integration of vehicles and payloads, these matters will be referred for decision to the ARPA Project Manager in appropriate form.

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Initial program schedules, system and subsystems development plans, developmental milestones, integrated test and checkout procedures, launch schedules and associated ground station operations, including funding under which the CIA arranges for work using funds made available by ARPA, and changes thereof, will be approved by the ARPA Project Manager. ARPA will be furnished copies of general performance specifications, work statements, copies of integrated test and checkout procedures for payload and boosters, and detailed plans for test operations. ARPA will review the proposed award to all major prime and subsystems contractors selected by the CIA.

The CIA will provide ARPA with access to all contractors and subcontractors for information-gathering purposes and briefing. Because of the complex interface relationships throughout the entire system, and because changes in one portion of the system evidently may be reflected throughout the entire system, no changes in program direction or emphasis will be effected by CIA or the Systems Engineer without prior agreement of the ARPA Project Manager.

As the program progresses, circumstances may arise to alter the areas of ARPA interest. The CIA's or the Systems Engineer's suggestions in such circumstances are expected and will be appreciated.

General technical performance guidelines for the vehicle , orbit, stabilization, payload, and collective data are given by the following tabulation:

NRO25X 1A2 I,C

[redacted]

ITEM		SPECIFICATION
Booster first stage		Thor
Booster second stage		Bell-Hustler
Orbital Altitude		120 n.m. (Circular ± 25 n.m.)
Orbital Life		7 Days
Platform Stabilization		Pitch, Roll, Yaw ± 2°
Correction with Horizon Scan in Pitch & Roll to -		.1°
Total Weight of Recovery Vehicle		273 lbs.
Recovery Shell	85 lbs.	
Propulsion Ejection System	74	
Recovery System	52	
Cassette	12	
Film	50	
	273 lbs.	

Complete payload weight including all structure and components forward of bulkhead X (310-1) shall not exceed 400 lbs.

Camera

Film Size	5 Inches
Focal Length	3 Inches (nominal)
Angular Coverage	74° X 74°
Ground Resolution	Not over 260 ft.
Distortion	5 Microns
Shutter	Between-the-lens

NRO25X /A)I,C

[redacted]

ITEM	SPECIFICATION
Shutter Speeds (Ground Camera)	1/500 sec. to 1/2000 sec.
Format Size (Ground Camera)	4-1/2" X 4-1/2"
(Stellar Camera)	1" X 2-1/4"
Time Recording	Time trace accurate to 1/1000 second. Also - time accurate to less than 2 seconds over a period of 4 days.
Weight	34 lbs. (Approx)
Cassette Weight	12 lbs.
Operational Data	
Forward Overlap	60%
Ground Width	180 n.m. (Approx)
Film Quantity	2800 - 2900 ft.
Film Weight	48 - 50 lbs.
Film Duration (Photographic Passes)	64 Passes
Climatic Control	70° F ± 10°

A total of four vehicle launchings should be planned to carry out the program with the first to take place about 1 June 1960. Six complete payloads shall be constructed to allow some flexibility in the program.

Launchings will be planned to take place from Vandenberg Air Force Base, utilizing the existing launch-pad complex associated with the DISCOVERER Program. The ground-based tracking, communications,

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[redacted]

and recovery network associated with the DISCOVERER Program are adequate for this project and will, therefore, be also utilized. The ground-based data handling equipment should be that essentially specified in the "SALAAM" Proposal, with maximum use being made of equipment being bought and paid for under the MONTICELLO I and II Programs.

Successful completion by the CIA of all aspects of each satellite vehicle payload operation under this project will be consummated by delivery, through appropriate channels, to the Army Map Service of the final recovered payload of each such operation.

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30 June 1959

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MEMORANDUM FOR THE RECORD

SUBJECT: Control of the ARGON Program - Agency Responsibilities

1. In accordance with the conversations among representatives of ARPA, CIA and the Department of the Army, this memorandum sets forth the relationships between these agencies in the direction and control of ARGON, and these agencies relationships to program contractors.

2. In order to obtain maximum security it is essential that CIA exercise control of ARGON: this control to range from complete control in such areas as security and cover to joint control with ARPA in other areas such as the direction of the technical aspects of the project.

3. Since the Army is the major, if not the primary, customer for whose benefit ARGON will be conducted, arrangements have been initiated to establish under ARPA cover, an Army Map Service Technical Staff which will support ARPA program management. This staff will contribute its initiative and competence through the ARPA Project Manager, _______________ and _______________, Assistant Project Manager who will work closely with appropriate CIA representatives.

4. To fulfill the Army's requirements performance specifications will be furnished by ARPA to CIA and these agencies will jointly select one or more prime contractors through which the detailed technical direction of the ARGON program will be accomplished.

5. The prime contractor or contractors will be charged under contract by CIA with the responsibility for performance of engineering work as required by the ARGON system as a whole, and for providing appropriate direction to insure the technical adequacy of various components, subsystems, and facilities required in the development of the ARGON system as well as for necessary ground equipment, including that for data processing. The prime contractor or contractors will also be responsible, except as limited below, for resolution of all technical controversies arising during development of the ARGON system, including the problem of payload integration, and for the technical direction of the research, development, and production efforts of all sub-contractors. The prime contractor or contractors will conduct analytical studies, and with the assistance of the subcontractors will provide the specifications and other data as may be

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required to completely define the ARGON payload system characteristics. These will include: system specifications, criteria and requirements for major subsystems, trajectories and guidance equations, power and interface specifications, maintenance of reliability performance and accuracy estimates, weight, and balance.

6. CIA will closely follow the development of the program and will keep ARPA fully advised of technical progress. Whenever problems of a technical nature arise including disagreements among contractors or interface problems of a technical nature involving possible compromise to the attainment of project objectives, or which may involve interference with the establishment of fully effective physical integration of vehicles and payloads, CIA will consult with ARPA and the two agencies will jointly agree on appropriate solutions. In this manner it is contemplated that ARPA and CIA will exercise joint control over technical matters in the conduct of the program.

7. In other areas, responsibilities during procurement will be as follows:

a. CIA Responsibilities

(1) Security and Cover - All aspects of security control and cover in the conduct of the program are the responsibility of CIA.

(2) Contractual Authority - Contractual authority under negotiated contracts shall vest solely in the authorized CIA contracting officer. This officer will negotiate and execute letter orders and contracts as required, including change orders for delivery of the required supplies and services. The policies and procedures to be followed in connection with such contracts shall be the same policies and procedures in effect on CIA contracts for similar procurements. Requirements set forth by the Armed Services Procurement Regulations shall be complied with to the greatest extent possible consistent with the unique security considerations inherent in procurements undertaken by CIA.

(3) Payment, Inspections, Acceptance and Audit - CIA will accomplish necessary administrative procedures and make payments under the contracts as required in a secure manner. CIA will establish in conjunction with ARPA a system of inspection and acceptance, and will arrange with the contractors and a special Air Force audit group for audit of contracts as may be required. These audit reports shall not enter the Army audit system but shall be furnished directly to CIA.

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b. ARPA Responsibilities - In addition to those set forth above, ARPA will:

(1) Furnish the funds necessary for the program.

(2) Furnish any Government furnished property required for effective performance of the contract work.

8. Operations - On the operational phase of the program responsibilities will be as follows:

a. The CIA-DPD Control Center will be the central location for operational control.

b. The ARGON launches will be handled by the Palo Alto Control Center. Recovery procedures in effect for DISCOVERER will be used for ARGON. Courier service to the processing center will be the same.

c. BMD will be fully responsible for operations at Vandenberg and acceptance of payloads. ARGON payloads would be handled and assembled at a secure facility designated by CIA.

d. Political approvals for ARGON launches will be the responsibility of CIA, and DOD support with ARPA providing technical justification for flights.

[redacted]

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30 June 1959

MEMORANDUM FOR: [redacted]

SUBJECT: Control of the ARGON Program

The attached is the result of our staff effort in connection with your paper.

You will note that we did make some changes in the substance of your paper but feel that our changes do reflect the agreements in the June 15 meeting between Mr. Bissell, you and Mr. Johnson in the latter's office.

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Attachment:
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In Accordance with E. O. 12958
on NOV 26 1997

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DRAFT [redacted]ec/24 June 1959

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Page 1 of 2 Pages.

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b. Adequacy of the photographic instrumentation within the payload to meet the geodetic objectives of the project.

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DRAFT/[redacted]sec/24 June 1959

MEMORANDUM FOR THE DIRECTOR, CENTRAL INTELLIGENCE AGENCY

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30 June 1959

MEMORANDUM FOR THE RECORD

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d. Political approvals for ARGON launches will be the responsibility of CIA, and DOD support with ARPA providing technical justification for flights.

[redacted]

~~TOP SECRET~~

30 June 1959

MEMORANDUM FOR: Dr. Golovin

SUBJECT: Control of the ARGON Program

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You will note that we did make some changes in the substance of your paper but feel that our changes do reflect the agreements in the June 15 meeting between Mr. Bissell, you and Mr. Johnson in the latter's office.

JOHN SHERMAN

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DRAFT/NEGolovin/sec/24 June 1959

(Proposed ARPA Order to the Department of the Army)

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c. Adequacy of proposed subsystems for reducing photographic material to geodetic significance.

Additional assignments within these and related areas will be specified from time to time in further orders issued by this Agency.

4. Funds in the amount of $200,000 (state fund citation) are herewith made available for the salaries of scientists and engineers, and for other appropriate costs, of the Army Map Service in support of the project. All actions required to establish and/or augment the scientific team within the Army Map Service, and to arrange for secure physical work space for this staff, are requested to be expedited.

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MEMORANDUM FOR THE DIRECTOR, CENTRAL I
AGENCY

SUBJECT: Technical Control of the ARGON Progra

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Initial program schedules, system and subsystems development plans, developmental milestones, integrated test and checkout procedures, launch schedules and associated ground station operations, including funding under which the CIA arranges for work using funds made available by ARPA, and changes thereof, will be approved by the ARPA Project Manager. ARPA will be furnished copies of general performance specifications, work statements, copies of integrated test and checkout procedures for payload and boosters, and detailed plans for test operations. ARPA will review the proposed award to all major prime and subsystems contractors selected by the CIA.

The CIA will provide ARPA with access to all contractors and subcontractors for information-gathering purposes and briefing. Because of the complex interface relationships throughout the entire system, and because changes in one portion of the system evidently may be reflected throughout the entire system, no changes in program direction or emphasis will be effected by CIA or the Systems Engineer without prior agreement of the ARPA Project Manager.

As the program progresses, circumstances may arise to alter the areas of ARPA interest. The CIA's or the Systems Engineer's suggestions in such circumstances, are expected and will be appreciated.

General technical performance guidelines for the vehicle, orbit, stabilization, payload, and collective data are given by the following tabulation:

ITEM		SPECIFICATION
Booster first stage		Thor
Booster second stage		Bell-Hustler
Orbital Altitude		120 n.m. (Circular ± 25 n.m.)
Orbital Life		7 Days
Platform Stabilization		Pitch, Roll, Yaw ± 2°
Correction with Horizon Scan in Pitch & Roll to -		.1°
Total Weight of Recovery Vehicle		273 lbs.
Recovery Shell	85 lbs.	
Propulsion Ejection System	74	
Recovery System	52	
Cassette	12	
Film	50	
	273 lbs.	

Complete payload weight including all structure and components forward of bulkhead X (310-1) shall not exceed 400 lbs.

Camera

Film Size	5 Inches
Focal Length	3 Inches (nominal)
Angular Coverage	74° X 74°
Ground Resolution	Not over 260 ft.
Distortion	5 Microns
Shutter	Between-the-lens

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ITEM		SPECIFICATION
Shutter Speeds	(Ground Camera)	1/500 sec. to 1/2000 sec.
Format Size	(Ground Camera)	4-1/2" X 4-1/2"
	(Stellar Camera)	1" X 2-1/4"
Time Recording		Time trace accurate to 1/1000 second. Also - time accurate to less than 2 seconds over a period of 4 days.
Weight		34 lbs. (Approx)
Cassette Weight		12 lbs.
Operational Data		
Forward Overlap		60%
Ground Width		180 n.m. (Approx)
Film Quantity		2800 - 2900 ft.
Film Weight		48 - 50 lbs.
Film Duration (Photographic Passes)		64 Passes
Climatic Control		70° F ± 10°

A total of four vehicle launchings should be planned to carry out the program with the first to take place about 1 June 1960. Six complete payloads shall be constructed to allow some flexibility in the program.

Launchings will be planned to take place from Vandenberg Air Force Base, utilizing the existing launch-pad complex associated with the DISCOVERER Program. The ground-based tracking, communications,

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and recovery network associated with the DISCOVERER Program are adequate for this project and will, therefore, be also utilized. The ground-based data handling equipment should be that essentially specified in the "SALAAM" Proposal, with maximum use being made of equipment being bought and paid for under the MONTICELLO I and II Programs.

Successful completion by the CIA of all aspects of each satellite vehicle payload operation under this project will be consummated by delivery, through appropriate channels, to the Army Map Service of the final recovered payload of each such operation.

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ARG-0003
30 June 1959

MEMORANDUM FOR THE RECORD

SUBJECT: Control of the ARGON Program - Agency Responsibilities

1. In accordance with the conversations among representatives of ARPA, CIA and the Department of the Army, this memorandum sets forth the relationships between these agencies in the direction and control of ARGON, and these agencies relationships to program contractors.

2. In order to obtain maximum security it is essential that CIA exercise control of ARGON: this control to range from complete control in such areas as security and cover to joint control with ARPA in other areas such as the direction of the technical aspects of the project.

3. Since the Army is the major, if not the primary, customer for whose benefit ARGON will be conducted, arrangements have been initiated to establish under ARPA cover, an Army Map Service Technical Staff which will support ARPA program management. This staff will contribute its initiative and competence through the ARPA Project Manager, ______________ and ______________, Assistant Project Manager who will work closely with appropriate CIA representatives.

4. To fulfill the Army's requirements performance specifications will be furnished by ARPA to CIA and these agencies will jointly select one or more prime contractors through which the detailed technical direction of the ARGON program will be accomplished.

5. The prime contractor or contractors will be charged under contract by CIA with the responsibility for performance of engineering work as required by the ARGON system as a whole, and for providing appropriate direction to insure the technical adequacy of various components, subsystems, and facilities required in the development of the ARGON system as well as for necessary ground equipment, including that for data processing. The prime contractor or contractors will also be responsible, except as limited below, for resolution of all technical controversies arising during development of the ARGON system, including the problem of payload integration, and for the technical direction of the research, development, and production efforts of all sub-contractors. The prime contractor or contractors will conduct analytical studies, and with the assistance of the sub-contractors will provide the specifications and other data as may be

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required to completely define the ARGON payload system characteristics. These will include: system specifications, criteria and requirements for major subsystems, trajectories and guidance equations, power and interface specifications, maintenance of reliability performance and accuracy estimates, weight, and balance.

6. CIA will closely follow the development of the program and will keep ARPA fully advised of technical progress. Whenever problems of a technical nature arise including disagreements among contractors or interface problems of a technical nature involving possible compromise to the attainment of project objectives, or which may involve interference with the establishment of fully effective physical integration of vehicles and payloads, CIA will consult with ARPA and the two agencies will jointly agree on appropriate solutions. In this manner it is contemplated that ARPA and CIA will exercise joint control over technical matters in the conduct of the program.

7. In other areas, responsibilities during procurement will be as follows:

a. CIA Responsibilities

(1) Security and Cover - All aspects of security control and cover in the conduct of the program are the responsibility of CIA.

(2) Contractual Authority - Contractual authority under negotiated contracts shall vest solely in the authorized CIA contracting officer. This officer will negotiate and execute letter orders and contracts as required, including change orders for delivery of the required supplies and services. The policies and procedures to be followed in connection with such contracts shall be the same policies and procedures in effect on CIA contracts for similar procurements. Requirements set forth by the Armed Services Procurement Regulations shall be complied with to the greatest extent possible consistent with the unique security considerations inherent in procurements undertaken by CIA.

(3) Payment, Inspections, Acceptance and Audit - CIA will accomplish necessary administrative procedures and make payments under the contracts as required in a secure manner. CIA will establish in conjunction with ARPA a system of inspection and acceptance, and will arrange with the contractors and a special Air Force audit group for audit of contracts as may be required. These audit reports shall not enter the Army audit system but shall be furnished directly to CIA.

b. ARPA Responsibilities – In addition to those set forth above, ARPA will:

(1) Furnish the funds necessary for the program.

(2) Furnish any Government furnished property required for effective performance of the contract work.

8. Operations – On the operational phase of the program responsibilities will be as follows:

a. The CIA-DPD Control Center will be the central location for operational control.

b. The ARGON launches will be handled by the Palo Alto Control Center. Recovery procedures in effect for DISCOVERER will be used for ARGON. Courier service to the processing center will be the same.

c. BMD will be fully responsible for operations at Vandenberg and acceptance of payloads. ARGON payloads would be handled and assembled at a secure facility designated by CIA.

d. Political approvals for ARGON launches will be the responsibility of CIA, and DOD support with ARPA providing technical justification for flights.